Claims

1. Method for the isolation of nucleic acids from a solution through binding to a solid phase, characterized in that one adjusts the nucleic acid-containing solution with additives in such a manner
that it contains monovalent and multivalent cations as well as an alcohol and if applicable other additives, one then brings them in contact with the solid phase, one then washes the carrier if applicable and releases the nucleic acid from the solid phase or
that it contains multivalent and/or monovalent cations, if applicable an alcohol and if applicable other additives and a specific pH value is set between 5 and 10.

2. Method according to claim 1 characterized in that ammonium chloride, sodium chloride and/or potassium chloride are used as monovalent salt components.

3. Method according to claim 1 characterized in that magnesium chloride, calcium chloride, zinc chloride and/or manganese chloride are used as multivalent salt components.

4. Method according to claim 1 characterized in that sodium chloride is used as a monovalent salt component and magnesium chloride is used as a multivalent salt component.

5. Method according to claims 1 to 4, characterized in that the monovalent and multivalent salt components are used in a molar ratio of 9:1 to 1:9.

6. Method according to claims 1 to 4, characterized in that the monovalent and multivalent salt components are used in a molar ratio of 7:3 to 3:7.

7. Method according to claims 1 to 4, characterized in that the monovalent and multivalent salt components are used in a molar ratio of 6:4 to 4:6.

8. Method according to claims 1 to 4, characterized in that the monovalent and multivalent salt components are used in a molar ratio of 1:1 to almost 1:1.

9. Method according to claims 1 to 4, characterized in that the salt components sodium chloride and magnesium chloride are used in a molar ration of 1:1.

10. Method according to claims 1 to 9, characterized in that the final concentration of the salt components in the solution is > 5mMol.

11. Method according to claim 1, characterized in that ethanol or isopropanol is used as alcohol.

12. Method according to claim 1, characterized in that tris-HCl or polyvinylpyrrolidone are used as additional additives.

13. Method according to claim 1, characterized in that all carrier materials utilized in the isolation of chaotropic reagents are used as solid phase.

14. Method according to claim 13, characterized in that glass fiber fleeces, silica membranes, or membranes that carry function groups that conform to glass fiber fleeces or silica membranes are used.

15. Method according to claims 13 and 14, characterized in that SiO_2 suspensions, aerosols, or magnetized silica particles are used as solid phases.

16. Method according to claim 1, characterized in that ionically weak solutions of monovalent and multivalent salt components, as was required for the previous binding, are used without alcohol components.

17. Method according to claim 1, characterized in that water or water with tris-HCl additive is used as elution buffer.

18. Method according to claim 1, characterized in that divalent cations are used as multivalent cations.

19. Method according to claims 1 and 18, characterized in that Mg^{2+}, Ca^{2+}, Zn^{2+}, or Mn^{2+} salts are used as multivalent cations.

20. Method according to claims 1 and 18, characterized in that NH_4^+, Na^+, or K^+ salts are used as monovalent cations.

21. Method according to claims 18 to 20, characterized in that the final concentration of the salt components in the solution is > 5mMol.

22. Method according to claim 1, characterized in that ethanol, isopropanol and/or polyethylene glycol of various molecular weights are used as alcohol.

23. Method according to claim 1, characterized in that the pH value of the binding buffer is set to tris-HCl.

24. Method according to claims 1 and 23, characterized in that the pH value of the binding buffer without alcohol additive is set to 8.5 – 9.5.

25. Method according to claims 1 and 23, characterized in that the pH value of the binding buffer with alcohol additive is set to 5-9.5.

26. Method according to claims 1, 23, and 24, characterized in that the pH value of the binding buffer with alcohol additive is set to 8-9.5.

27. Method according to claims 1, 23, and 24, characterized in that the pH value of the binding buffer with alcohol additive is set to 6.5-8.

28. Method according to claims 1, 23, and 24, characterized in that the pH value of the binding buffer with alcohol additive is set to 5-6.5.

29. Test kit to isolate DNA from any base materials containing
    - An aqueous solution containing monovalent and/or multivalent cations.
    - If applicable, an alcohol.
    - If applicable, other additives to adjust the pH value.
    - A solid phase, preferred as solid component of centrifuge tubes, 96- or 384-gauge corrugated filtration plates.
    - Washing and elution buffers.

30. Test kit to isolate DNA from any base materials containing
    - An aqueous solution containing monovalent and multivalent cations, preferably divalent cations.
    - A solid phase, preferred as solid component of centrifuge tubes, 96- or 384-gauge corrugated filtration plates.
    - Washing and elution buffers without alcohol additive.

31. Test kit according to claims 29 and 30, characterized in that the solid phases are glass fiber filters, glass membranes, silicon carriers or aerosols.

32. Test kit according to claims 29, 30, and 31, characterized in that loose materials, preferably SiO2, cut silicic acid, pyrogenous silicic acid or magnetic silica particles are used as solid phase.

33. Test kit according to claims 29 to 32, characterized in that membranes with functional groups are used as solid phase.